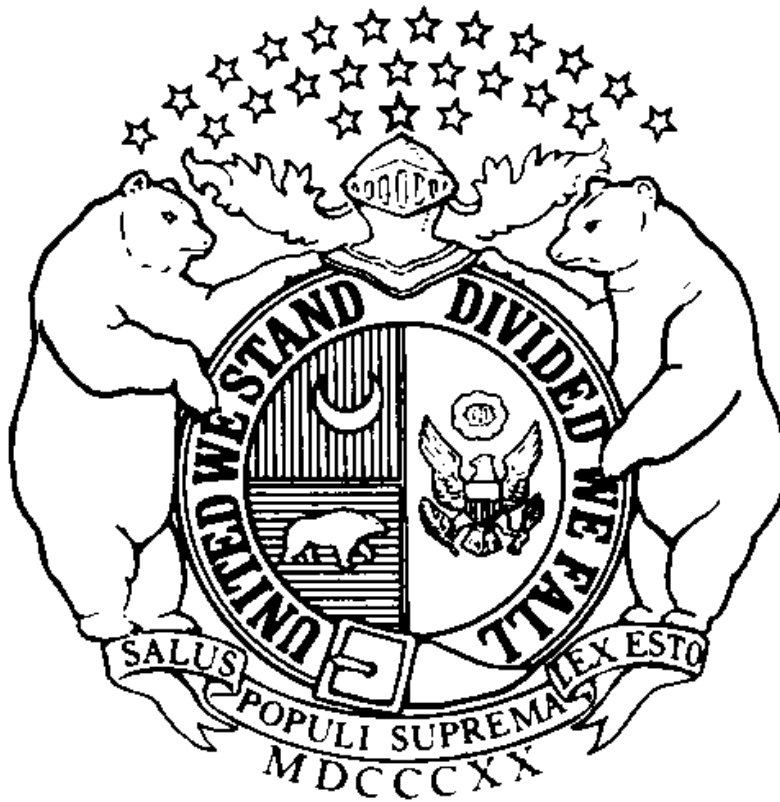# State of Missouri

Web Guidelines

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Digital Media Developer's Group

Web Guidelines Sub-committee

www.oa.mo.gov/dmd/

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Authors
This document was drafted by members of the Digital Media Developers (DMD) group, a subcommittee of ITAB composed of state government employees involved in issues relating to Web and digital media development. You can find out more about the DMD at http://www.oa.mo.gov/dmd/.

Purpose
These guidelines serve as a "best practices" guide for state agencies to develop effective Web sites for the Missouri State Web.

Using these guidelines will help agencies:
- To communicate information efficiently and effectively
- To improve the ease of use and organization of information on state Web sites
- To enhance the interoperability of state Web servers and Web sites
- To meet user expectation of information and technology

Site Design
Each state agency is provided the freedom to design and develop a Web site appropriate to inform and serve their audience. These guidelines place no restrictions on the design and development of a Web site. These guidelines are recommendations to ensure a successful deployment of a Web site.

Adherence to Standards
Web sites should support current Web standards (HTML 4 or XHTML). The target browsers are version 4.0 browsers and higher (IE4+, Netscape4+).

A major component of these standards is the use of Cascading Style Sheets (CSS). CSS allows the Web author to separate Web content from Web style. By creating a style sheet, the Web author can greatly reduce the amount of in-line styling (FONT tags, tables and link colors, for example), which will make updates and redesigns easier.

Page Size
Pages may be designed to a screen resolution of 800x600. The designer should keep in mind that there are still a number of users who do use 640x480 resolution, and should make sure that pages are readable at lower resolutions. One option is to use a flexible design that will scale to the user's resolution

DTD (Document Type Definition)
The DTD line goes at the very top of the page, before the <html> tag.

The DTD tells the browser what set of tags to interpret in your page. HTML 4.01 specifies three DTDs, so authors must include one of the following document type declarations in their documents. The DTDs vary in the elements they support.

- The HTML 4.01 Strict DTD includes all elements and attributes that have not been deprecated or do not appear in frameset documents. For documents that use this DTD, use this document type declaration:

  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
          "http://www.w3.org/TR/html4/strict.dtd">

- The HTML 4.01 Transitional DTD includes everything in the strict DTD plus deprecated elements and attributes (most of which concern visual presentation). For documents that use this DTD, use this document type declaration:

  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
          "http://www.w3.org/TR/html4/loose.dtd">

- The HTML 4.01 Frameset DTD includes everything in the transitional DTD plus frames as well. For documents that use this DTD, use this document type declaration:

  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset
          "http://www.w3.org/TR/html4/frameset.dtd">

If you are using XHTML, DTDs can be found at http://www.w3.org/TR/xhtml1/#dtds.

Most Web editors will either insert a DTD automatically or can be configured so the main template will automatically insert one.

Head information
Information that goes into the <head> tag contains data that is used by the browser, search engines, and the user. This is an often-neglected section of the Web page.

Title

The title of pages should be short and descriptive of its contents. The title is used by the browser's bookmarks and search engines. The title should indicate your state and agency wherever possible
Example:

      Good title: State of Missouri Web Standards and Guidelines.

      Bad title: Standards and Guidelines.

Meta tags

Meta tags contain information about the page. These can include author information, keywords or descriptions. Many search engines (including ht//dig, the state search engine) use meta information to rank results. More information about meta tags is available at http://www.w3.org/TR/WD-html40-970708/struct/global.html#h-7.1.3.2 .

Cascading Style Sheets

External CSS files are linked in the head of the page. The format for linking to an external style sheet is:

   <LINK rel="STYLESHEET" href="/path_to_css/default.css" type="text/css">

Layout
We recommend a simple layout consisting of a header, footer, sidebar and body. This type of layout is very familiar to users and will aid them in navigating your site.

Header:

The header should contain the agency logo (and other agency identification) and site-wide navigation tools (search, contact info, help). This header would appear on all pages in one version or another.

Footer:

The footer should contain the same links as in the header, although it is recommended that the links be in text format. This is also a good place to put your disclaimers and privacy statement.
We also recommend that you have a way for the user to contact the webmaster to report problems with the site, as well as the date the page was last updated and

copyright information.

Sidebar:

The sidebar is where you would put some topical navigation links. The sidebar should appear on most top-level pages on your site.

Body:

This section contains the information or data that you are presenting to the user.

Navigation:
Each agency home page must have a link to the State of Missouri Home page. This allows the user to navigate smoothly between the state portal and agency pages. If an agency is part of a department or other larger organization, the relationship to that organization should be made very clear, with links back to the parent organization.

Sites should have a consistent navigation scheme across all pages. Navigation should include a Search form and a contact link. It may also include such items as employment links, FAQs or other pages that will help users navigate through the site.

It is also recommended that sites be organized by functions rather than by the hierarchical organization of the agency. This will help the users find the services and information they need without knowing the political structure of the agency.

Place graphics uniformly throughout the Web site to aid in page recognition and navigation if images are used as hyperlinks.

Frames:
We do not encourage the use of frames on state Web sites.

The following are tips to consider if you choose using frames:
1. Frames make it difficult for other sites to do deep linking to your site and maintain your navigation scheme.
2. Provide a no frame alternative to pages with frames.
3. Frames are not available on all browsers.
4. If overused, frames can create a page that is cluttered and difficult to use.

Browser Compatibility:
Minimum browser standards that all state agencies should strive for when developing Web pages should include:
- Current browsers (Mozilla 4.0 and higher).
- Pages should be tested in Netscape 4.x for compatibility

Language:
Web pages should be created using HTML 4.01 or XHTML 1.0 compatible with current browsers

The following are principles to keep in mind when designing pages with HTML:
1. Use valid HTML.
2. Content should be separate from style.
3. Don't make pages too long so that there is endless scrolling, unless you provide "anchors" and links to aid the reader in navigation.
4. Avoid using deprecated tags.
   The following tags have been deprecated and should no longer be used:
   - CENTER
   - FONT
   - U (underline)
   - APPLET

These tags should be replaced with appropriate style sheets or standards-compliant tags.

Cascading Style Sheets
Current standards (HTML 4.01 and XHTML) allow the designer to use cascading style sheets to control formatting of a Web page. All current browsers support CSS2.0, although Netscape 4.x support is buggy.

Since CSS allows developers to separate content from display, it allows pages to be portable to other platforms, such as WAP. This will be especially helpful when sharing information across agency lines.

Web designers are strongly recommended to use CSS in developing all future pages.

Links to CSS resources:
http://www.w3.org/Style/CSS/ : The W3C specs
http://spider-food.net/css.html : An intro to Style Sheets
http://www.thepattysite.com/linkstyles1.cfm :Creating custom link styles
http://www.mako4css.com/Tutorial.htm : Tutorial for CSS positioning
http://www.glish.com/css/ : More on CSS positioning
http://www.meyerweb.com/eric/css/ :a site full of goodies from a CSS expert

Search Engines:
The State of Missouri will provide a search engine for use on all State of Missouri World Wide Web sites. The development or purchase of individual site search engines is the option of each state agency.

Using meta tags to provide keywords and a description to your pages can result in a

higher match on the state search engine.

Server-side Includes
SSIs are small snippets of HTML code that are included in your page. Using server side includes (SSIs) on your pages can greatly increase your flexibility and ability to make site-wide changes.

When you update a SSI file to the server, it will automatically be included in all pages that use the SSI file. Use SSIs for page banners (headers), footers, and sidebars. They can also be used to include scripts and other active content in a page.

See tutorial at http://www.oa.mo.gov/dmd/tutorials/apache-ssi.shtml .

Also see http://www.oa.mo.gov/dmd/tutorials/customerror.shtml for other server-based tips, like custom error pages, redirects and password-protected sites.

Naming Conventions:
Page Names

The following are tips on saving your HTML documents:
- When saving a document, use the .htm extension so the file can be interpreted across all platforms and browsers.
- Be consistent with upper and lowercase naming conventions for your files. The state server is case-sensitive.
- Keep file names under 32 characters
- Use extensions for your graphics (.gif or .jpg)
- **Avoid spaces or other special characters in file names**. If you need file names clear, use the "_" (underscore) character. Some search engines, browsers and even servers do not recognize the space or other special characters as legitimate file name characters.
- When possible, use the "index.htm" filename for the main document name for a directory. Many search spiders simply look in a directory for available files. Many Web servers are configured to look for an "index.htm", "index.html", "index.shtml", or "index.cgi" file when simple directory calls are made.
- Make sure the extension you use for a file is supported by the Web server MIME table. ".doc" files, for example, many signify a Word document to you, but to a typical Web server it may signify a simple text document. Check with your system administrator to find out what filename extensions are supported on your Web server.

Images/Graphics/Colors:
Web pages **must** be usable by text-based browsers by using the ALT attribute to attach text to a graphic. The text will display if the user has a non-graphical browser or if the

user has the graphics option turned off on a graphical browser. ALT attributes should describe the purpose of the graphic. For example, if your logo is also a link to your home page, the ALT attribute would be "alt="[your agency] Home Page""

Graphics are dependent upon the design of the site. The following are tips on using images/graphics:

1. Keep images small. Use a program such as Fireworks or ImageReady to compress your images.
2. Images should take no longer than a few seconds to download using a 56K modem.
3. Save image files with the extension ",gif" and ".jpg" to be used in Web pages. Use gif for black and white and for flat color images. Use jpeg for continuous-tone images (photographs) at either medium or low and for gradations (medium).
4. Save images in interlaced format (gif 87a or 89a format) for faster display. Fireworks or ImageReady will do this automatically.
5. Set mode as indexed color format to restrict the colors in the image palette to 256 or less.
6. Set resolution to 72 dpi. This is the default for GIF files.
7. Set palette to adaptive/diffusion to reduce dithering or color distortion by the browser.
8. **Use ALT attribute to attach text to a graphic** for non-graphical browsers or browsers with graphics turned off.
9. Keep in mind many people may view your graphics on a screen that is only 640 x 480 pixels in size. Graphics exceeding 560 pixels in width may require the use to scroll horizontally.

Animated Graphics:

The following are tips to consider when using animated GIFs.
- Animations that loop continuously can be annoying and can be distracting to the user.
- Keep the size of the image small.
- Add time between frames to control the speed of the animation.

Backgrounds/Colors:

Background and color can add life to a Web site. These standards and guidelines place no restrictions on backgrounds and colors. The background and color combination a site uses is dependent upon the design of the site.

The following are tips to consider when using backgrounds and colors:

1. Limit the background color to white or a light shade to assure readability of the page.
2. Textured backgrounds should have minimal graphic images and should be uniform throughout the Web site.

3. Select a background that is not too busy. It can be difficult to read text over a cluttered background.
4. Use a background image that is a small image with a low contrast and saturation.
5. Colored text is discouraged, as readability is affected when colored text is used.
6. Use contrasting colors for sidebars and navigation panels.
7. Use Web-safe colors

Flash

Flash is a program that allows the developer to create small files that can do such things as animation, rollovers and special effects without the use of javascript. In many cases, using Flash can result in smaller file sizes than conventional DHTML applications.

However, Flash requires a small plug-in from Macromedia in order to work. Some users may not want to download the plug-in or may be unable to download it. Therefore, if Flash is used for navigation or presentation, an alternative, accessible tool must be made available.

Audio files:
The use of audio files is dependent upon the design and development of the site.
The most common file formats for audio files are au, wav, aiff, and midi.

It is important to remember that listeners will need such items as a sound card, speakers, and audio software to play your audio files.   Content should be provided in an alternative format to meet accessibility guidelines whenever possible.

Video files:
The use of video files is dependent upon the design and development of the site.
The most common file formats for video files are mpeg, avi, and QuickTime.

It is important to remember that video clips can be very large, and the user must have a fast modem or a broadband connection to make it worthwhile to download video files. Large video files can also cause a bandwidth problem for servers, leading to poor performance.

Cookies:
We do not recommend using persistent cookies on any Missouri government site. For some features like shopping carts or similar applications, session cookies (cookies that disappear after the browsing session is over) may be used, but it would be better to use URL-rewriting whenever possible.

Any customization of a site should require the user to log in to access preferences stored in a secured database.

We make this recommendation largely due to public concerns about cookies. Many users believe that it is an invasion of privacy to allow a third party to write a file to their computer. Others fear that cookies are a form of "spy-ware" that allow the cookie source to snoop around a user's computer. Others object to cookies being used to track how the user browses through a site. Others just don't trust the government.
 If an administrative decision to use cookies is made, full disclosure of cookie use should be made prior to setting the cookie. Cookie use should also be addressed in the agency's privacy policy.

Templates:
Each agency is encouraged to develop templates for their pages. Most third-party development tools (Dreamweaver, Front Page, GoLive, etc) allow the user to create templates that allow each page to have an identical format (header, sidebar, footer, stylesheet, etc). Check your software documentation for details.

PDF Files (Acrobat)
There are things to consider when developing documents for conversion to PDF.
Appropriate use of PDF files

PDF documents should not be used for convenience when a standards-compliant method (HTML) is available. Whenever possible, files should be available in HTML rather than PDF format.

Inappropriate uses for PDF:

- Shorter, simple text documents.
- Pages that convey basic or common information from your agency.

Appropriate uses for PDF:

- Documents that include precise formatting, like forms, sheet music or building plans.
- Documents designed to be printed and submitted, rather than submitted electronically, i.e., tax forms or license/permit applications.
- Lengthy documents with a table of contents, i.e., an administrative manual
- Files in formats such as Quark, PageMaker or Publisher, which do not easily convert to HTML.
- Scanned documents.

Preparing your document for PDF

1. Word 2000 lets you create tagged Adobe PDF, which has greater functionality for

accessibility than the structured Adobe PDF created in Word 97 documents. For Word documents, create your Word documents in Word 2000, rather than in 97. If they're already in Word 97, open and save them in Word 2000.

2. When writing documents in Microsoft Word, be sure to use styles to format text such as titles, headings, and paragraphs. The styles provide structure information when you create a tagged Adobe PDF file.
3. Use the column command in Word to create columns. **Do not use tabs** to simulate double-column text.
4. Use the Insert Table command or Draw Table tool in Word to create tables.
5. Add alternative text to all images. For example, in Word, you can add alternative text describing an image by right-clicking Format Picture and setting the alt text under the Web tab.

Converting to PDF

1. It is strongly recommended to upgrade to Adobe Acrobat 5.05. There are many new accessibility features built in to Acrobat 5.05. Some agencies have reported problems with documents created in Acrobat 4 not printing properly with Acrobat Reader 5. It appears that documents created with Acrobat 5 do print correctly in Acrobat 4.
2. Use the "Convert to Adobe PDF" icon when it is available (in Word, Excel and PowerPoint). The Convert to Adobe PDF option is the most effective and ADA-accessible way to convert to PDF. It generates "tagged" PDF and preserves hyperlinks, styles, and bookmarks present in the source document.
3. Setting security (i.e., setting passwords or printing or copying permissions) is strongly discouraged. Specifically when setting encryption, 40-bit security locks screen readers from access to PDF files, but at the same time setting 128-bit security may lock out the use of Acrobat Reader 3.x or 4.x.

Notes on PDF

if you are having trouble getting 4.0 PDF files to read in Reader 5.0 or 5.0 PDF files in Reader 4.0 or earlier, please make sure you upgrade Adobe Acrobat to include the patches.

- Patch: http://www.adobe.com/products/acrobat/update.html .
- If you are using a registered version of 4.0, you should have received the 4.05 upgrade via CDROM sometime after December 1, 1999.

PDF Links

Access Adobe: http://access.adobe.com/
Adobe Acrobat 5.0 accessibility features: http://access.adobe.com/features.html

Tutorial on linking to specific pages in a PDF document:
http://www.oa.mo.gov/dmd/tutorials/linking_pdf-html.shtml

DMD Experts
The DMD experts can give you a hand if you get stuck. They may have some examples, links, tutorials or advice to give you on those areas that you just aren't comfortable with yet.

Remember, the experts are volunteers and have day jobs, just like you, so use them wisely, and be sure to thank them.

If you get phone calls about any of these topics, or have some other topics, please volunteer to be an expert!

Site Design
Graphics/Color
HTML
CSS
JavaScript
Perl
.NET
JSP
PDF
MySQL
Local Development-- http://www.oa.mo.gov/dmd/tutorials/apache-win.shtml

Publishing Web Pages
It is important for each agency to establish a procedure for publishing Web pages and designate a Portal Coordinator. The following procedures are a recommended approach to publishing Web pages.

Validate Your Pages
Validating your pages gives you the assurance that you have written good pages with standards-compliant tags. Your page will be readable on any browser, although the display may differ on non-standard browsers.

If you are using templates, make sure your template validates.

When you complete a page, run it through a validator, just to make sure it checks out. Some third-party tools, such as Dreamweaver, have validation tools included or available for download. You can also download HTMLTIdy, which installs on your computer and can be used for validating. If you do not have a tool that validates, you can validate your pages on-line at the following sites:

HTML Validators:

W3C -- http://validator.w3.org/
Web Design Group-- http://www.htmlhelp.com/tools/validator/
Doctor HTML-- http://www2.imagiware.com/RxHTML/

CSS Validators

W3C-- http://jigsaw.w3.org/css-validator/
Web Design Group-- http://www.htmlhelp.com/tools/csscheck/

Accessibility Validators:

Dreamweaver MX--
http://www.macromedia.com/macromedia/accessibility/mx/dw/validation.html
Bobby-- http://bobby.watchfire.com/bobby/html/en/

Publishing Procedures
1. The Web page should be created following standards and guidelines of the State of Missouri and those of the agency.
2. When the Web page is finished, the page will be submitted to the appropriate staff for approval.
3. The Web page should be tested before being placed on the Web server.
4. When the page is approved and tested the Web page will be published to the Web server for the general public.

Portal Coordinator

The portal coordinator will be responsible for maintaining an agency's links to the state portal. The portal coordinator will identify pages that should be linked to the portal, decide what categories the page fits, and submit the link to the state portal administrator for inclusion.

The portal coordinator will usually be a Web developer. An agency may have multiple portal coordinators.

We recommend that the portal coordinator attend DMD meetings regularly to get portal updates, find out what new projects are being developed, and to meet other Web developers from different agencies.

Meetings are held on the first Thursday of each month in Room 500 in the Truman Building.

Accessibility Guidelines for People with Disabilities
Why are we concerned about accessibility?
It's the law. Section 191.863 RSMo states that :

> "1. The [Assistive technology] council shall work in conjunction with the office of information technology to assure state compliance with the provisions of Section 508 of the Workforce Investment Act of 1998 regarding accessibility of information technology for individuals with disabilities.

> 2. When developing, procuring, maintaining or using information technology, each state department or agency shall ensure, unless an undue burden would be imposed on the department or agency, that the information technology allows employees, program participants and members of the general public access to and use of information and data that is comparable to the access by individuals without disabilities.

For the state Web developer, this means that you should begin incorporating accessibility features in your site as you redesign or update it.

Section 508 Standards
While Section 508 incorporates many of the "Priority 1" WAI standards ("Bobby approval"), it also includes some Priority 2 and 3 checkpoints.

The Section 508 standards are:

1. A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).
2. Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.
3. Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.
4. Documents shall be organized so they are readable without requiring an associated style sheet.
5. Redundant text links shall be provided for each active region of a server-side image map.
6. Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.
7. Row and column headers shall be identified for data tables.
8. Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.
9. Frames shall be titled with text that facilitates frame identification and navigation.
10. Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

11. A text-only page, with equivalent information or functionality, shall be provided to make a Web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.

12. When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

13. When a Web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with 7⁄1194.21(a) through (l).

14. When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

15. A method shall be provided that permits users to skip repetitive navigation links.

16. When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

(from http://www.access-board.gov/sec508/508standards.htm#PART%201194)

How do I implement the Section 508 standards?

A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).
ALT-TEXT Guidelines:
1. Keep wording simple.
2. Describe function of graphic rather than what it is or looks like. Example: Use "next" rather than "right-pointed triangle graphic"
3. Include punctuation or spaces at the end of the ALT-TEXT of images used as links.
4. The use of "spacer.gif" for formatting should have the alternate text as ALT="" so synthesized readers can interpret the text and not pause for an extended amount of time.
5. The use of graphics for buttons or hyperlinks is common; the alternate text should be where you are linking to and not the word "Link" or "button." There is no need to use Link attributes since the HREF and ALT tags are both used. Example:
    <img src="button.gif" Alt="Digital Media Developers Group">
6. Image Map hot spots should have a description of the link within an ALT tag for each link.

Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.

Use captioning, or provide a link to a transcript of multimedia files.

Audio/video Clips:

(a)Place an anchor to a page with a text transcript or description of the clip right next to the anchor for the clip.

(b)If the user has requested a text-only page, replace all URL references to the clip with URL references to the text transcript or description.

(c)See the Missouri Information Technology Accessibility Standards for more information

Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.

Background patterns and color should contrast well with the lettering to maintain readability.

Select color that will make pages easy to read by people with color blindness.

Documents shall be organized so they are readable without requiring an associated style sheet.

Turn off style sheets or view the page in a text browser to see how it displays.

Redundant text links shall be provided for each active region of a server-side image map.
Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.
Image Maps:

This feature requires an ability to see and click on particular parts of a graphic image and is inaccessible to people who are blind.

Recommend solutions include:

1.Create a client-side image map using ALT-TEXT for each of the links and for the image map itself.

2.Anchor to a text-only page which presents an alternate form of the page.

3.Provide a listing of image map choices as a list of text anchors immediately below the image map.

4.Use a series of several images that can have their own ALT-TEXT.

Row and column headers shall be identified for data tables.
Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.

For text in columns or numbers in columns provide a text only version with text laid out in a single column.

Use Table Headers <TH>, captions (Caption) and Scope <TH scope="col"> to define data tables. Example:
    <table>
    <caption>Phone List</caption><tr>
    <th scope="col">Last Name</th><th scope="col">First Name</th><th scope="col">Number</th></tr>
    <tr><td>Boeckman</td><td>Debbie</td><td>(573) 526-8407</td></tr>
    <tr><td>Martin</td><td>Lanie</td><td>(573) 526-2520</td></tr>
    </table>

Another option is HTML 4.0 special tags such as THEAD, TFOOT, TBODY, COLGROUP, and COL to make tables more logical for your special needs visitors.

Do not incorporate these tags for tables used for layout control only.

Frames shall be titled with text that facilitates frame identification and navigation.
The best solution is to avoid using frames. Use a server-side includes to create headers, menus and other items that are common to each of your pages.
If you are using frames, create a text-only page linked to complex frames. Some screen readers treat each frame as a separate window.

The use of frames should be used for specific Intranet or Interactive Applications with a narrow audience not intended for public access pages. Use the <NOFRAME> tag and/or the frame TITLE attribute. Screen readers have difficulty with framesets. This can be alleviated by using a <NOFRAME> tag to identify some content for the readers to read, or by giving the frames descriptive labels with the optional TITLE attribute.

Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

Flickering pages or images are distracting and can trigger certain types of epileptic seizures. Avoid using javascript or DHTML effects that make the page flicker.   When possible, avoid animation.

Avoid using the BLINK and MARQUEE tags if possible. Marquee text is often read by a screen reader one letter at a time as it appears on the screen.

A text-only page, with equivalent information or functionality, shall be provided to

make a Web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.

When all else fails, create an accessible page. Since this is a lot of work, think again about how you can make that page accessible.

When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

While server-side scripting poses no problem, client-side scripting, javascript and event handlers may not be usable to screen readers or text browsers.

This is particularly true of some drop-down menus, where the user does not have a "Go" button to click.

When a Web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with §1194.21(a) through (l).

If you want to use PDFs, Flash, Shockwave, Word or any other plug-in, make sure you give the user a link to get the plug-in. Make sure the plug-in is accessible. If the application is not accessible, be sure to provide an alt-text or longdesc tag to describe the content.

When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

Use the LABEL tag to associate form labels with their form fields. Example:
td> <LABEL for="email">E-mail address: </LABEL> </td>
<td> <input type="text" id="email"> </td>

Add tab order such as <INPUT tabindex="1"> to forms to make the fields flow more smoothly with keyboard use instead of a mouse.

Provide a form which can be downloaded then mailed or e-mailed, or a phone number someone can call for assistance.

A method shall be provided that permits users to skip repetitive navigation links.

Since screen readers read every link on the page in order, most users will have to listen to all of your links before they hear any of your content. Use invisible links to allow the user to skip the menus. http://oc.nci.nih.gov/web508/tip2.html

When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

Timed response may be used on login user sessions, forms, refresh and redirects. Users with disabilities generally take longer to navigate through a page.

Other accessibility guidelines
Accessiblity Contact:

Contact Information for issues related to accessibility by individuals with disabilities shall be provided on each entry page. This is a standard in the Missouri IT Accessibility Standards.

Links:

Avoid the words "click here;" use descriptive text within sentences or headings as the anchor for hyperlinks. There is no need to use the Title attribute if descriptive text is the hyperlink. Examples of proper use of "click here" are: "Click here to listen to the real audio file" or "Click here for more information on blindness prevention."

Text Anchors:

- Make text anchors descriptive enough so that they make sense when read out of context.
- Place spaces or horizontal lines between links that occur consecutively. Spaces are used to prevent a list of links from being read as one link by a screen reader.

Image Text:

If use of graphic text is unavoidable (i.e., image-based rollover menus), make sure the context is available elsewhere as text.

Punctuation and Symbols:

Avoid uncommon typographic characters or constructions such as emoticons, arrows consisting of dashes and greater than signs, etc. Screen reading software often ignores or stumbles across punctuation.

Layout:

1. Avoid side-by-side (columnar) presentation of text. Screen readers will read an

entire row in a table as a sentence.
2. An alternative is to provide a text only version of the page. The link to the text-only page should be one of the first encountered on the graphics page and vice-versa.

Lists:

Use a bullet or number for each item in a list. This helps a person using a screen reader know where the list begins and ends.

Use standard <LI> for bullets, but if using small graphics to show emphases, use a style sheet to insert the images.
Example: ul li {list-style-image : url(../graphics/bluedot.gif);

Testing Pages for Accessibility:

1. Turn off graphics, make sure the ALT TEXT displayed makes the page usable.
2. Turn off Java and Javascript, make sure no information is lost.
3. Turn off sounds, make sure no important instructions are lost.
4. Turn off style sheets, make sure the page is still readable.
5. Use the High Contrast option in the Accessibility Option section of the Control Panel, restart the browser, make sure the page is still readable.
6. Use Custom Font Sizes in the Display section of the Control Panel.
7. Use the largest font size, supported by the browser.
8. Resize the browser window larger and smaller
9. Navigate using the keyboard, make sure TAB traverse all links in reasonable order and that CTRL + TAB moves between pages or sections.
10. Select all text and copy it to the clipboard, ensure it makes sense pasted into a word processor.
11. Use specialized browsers that may be used by people with disabilities.

The Opera browser has a switch that allows the user to toggle between the author's style sheet and the user's style sheet (if any). This is an excellent way to see how a page will appear on a browser that does not support style sheets.
Download at http://www.opera.com

Links

Missouri Information Technology Accessibility Standards—Missouri-specific accessibility standards.
http://www.dolir.state.mo.us/matp/DraftItAccessStandardsDoc.htm

Bobby (to validate for accessibility)-- http://bobby.watchfire.com/bobby/html/en/

Web Content Accessibility Guidelines 1.0: The W3C standard for accessibility

http://www.w3.org/TR/WAI-WEBCONTENT/

WebAble!: Tons of links for accessibility
http://www.webable.com/

National Cancer Institute Usability Site: Links, tutorials, guidelines and more. Very thorough
http://usability.gov/

Section 508 Web Accessibility Standards Summary: The 16 requirements for compliance
http://www.access-board.gov/sec508/guide/1194.22.htm
http://usability.gov/accessibility/508.html#subpart
http://www.webable.com/508_guidelines.html

Section 508 text
http://www.access-board.gov/sec508/508standards.htm

Section 508 Tutorials
http://oc.nci.nih.gov/web508/tutorial.html

Dreamweaver Extensions: Free accessibility tools for Dreamweaver.
http://dynamic.macromedia.com/bin/MM/exchange/main.jsp?product=dreamweaver

LynxView: an on-line way to see how your page looks on a text-only browser
http://www.delorie.com/Web/lynxview.html

Dive Into Accessibility: a free on-line book (HTML or PDF) that will take you step by step towards accessibility.
http://www.fixingyourwebsite.com/DiveIntoAccessibility/